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PUBLIC HEALTH

EPIDEMIOLOGICAL BULLETIN

DIPHTHERIA

Ontario

Early in November, three cases and three carriers of diphtheria were reported from Beardmore; two of the cases were fatal. The first carrier discovered had spent the summer at a family camp in the Auden area. Shortly after returning to school, he had suffered a sore throat. At school, he sat next to a child who had had tuberculous meningitis two years previously, leaving him with residual complications. This child developed diphtheria and died of myocarditis.

The other two cases developed in the family of the first carrier. Two brothers developed the disease; one died and the other survived. As the family were Christian Scientist, they did not believe in immunization, but the child who survived had accidentally received some diphtheria immunization previously. Two other white students in the same school were found to be carrying virulent diphtheria organisms.

The population in the Beardmore area are mostly white although there are a few Indians. Immunization against diphtheria has been kept up to date in the Indian population, but apparently the white population has been reluctant to bring their children to the public health clinics for immunization.

SCARLET FEVER

Manitoba

A 7-year-old boy from Winnipegosis developed a fever and cough on October 23, 1966, and two days later complained of a severe sore throat, a rash on his tongue and a generalized fine body rash. His family made a brief attempt to see a physician on October 27, but when unable to do so they began giving the child acetylsalycilic acid. He developed a staggering gait, vomiting and diarrhea. On October 31, while getting up from his bed he suddenly collapsed and was pronounced dead by the physician on his arrival at hospital. An autopsy was not performed.

His four siblings, aged 21, 16, 6 and 5 years, were all found to be acutely ill with a septic sore throat, generalized toxemia and scarlet fever rash. They were isolated in hospital and the parents and grandfather, whose throat and nasal swabs were negative on culture, were placed on prophylactic penicillin treatment.

As these children attended a consolidated school having an enrolment of over 700 pupils, and as they were transported by a school bus, a general surveillance of school pupils was undertaken. Over a 10-day period 270 pupils reported that they had had sore throats. Throat swabs were taken of all these pupils and a beta hemolytic streptococcus Lancefield group A was isolated from 13 of them. One hundred and thirty-three pupils were placed on oral penicillin, as clinical evidence of a streptococcal sore throat was present. To date, one child in the area has developed an acute glomerulonephritis. The boy gave a history of septic sore throat infection approximately one week before the index case. The organism isolated was a beta hemolytic streptococcus Lancefield group A. The source of the outbreak could not be determined.

The Manitoba Provincial Laboratory has recently reported isolating an unusually high number of hemolytic streptococci Lancefield group A. For two of these patients, the Laboratory of Hygiene, Department of National Health and Welfare, has typed the organisms and found them to be group A streptococci M and T types 12. These two isolates were submitted by a Winnipeg physician from two patients aged 5 and 13. Outbreaks of scarlet fever have also been reported from Macgregor, where at least eight cases have been diagnosed and out of 850 pupils at the school 144 had sore throats. In addition, the Swan Valley Health Unit reported eight cases of scarlet fever for the week ending November 12.

MENINGOCOCCAL MENINGITIS

Manitoba

On October 9, 1966, a 28-year-old woman from Gillam died in hospital as a result of meningococcal meningitis. On October 22, a second case was reported from Gillam in a 22-year-old Treaty Indian. In order to prevent an outbreak of this infection, all the residents of Gillam were given prophylactic treatment consisting of 3 g. of triple sulfonamide followed by 1 g. 12 hours later. Children were given correspondingly smaller doses. About 75 persons in close contact with these two cases were also given bicillin by injection. Swabs were taken from the throats of the inner circle of contacts in a search for meningococcal carriers. One of these contacts was found to be positive for *Corynebacterium diphtheriae*.

FOREIGN REPORTS

SALMONELLOSIS ASSOCIATED WITH NON-FAT DRY MILK —U.S.A.

In January 1966, the Michigan State Department of Public Health investigated two cases of gastroenteritis due to *Salmonella new brunswick*. The cases occurred in infant males less than 6 months of age residing in different areas of the state, and each had been fed a formula made from instant non-fat dry milk. Other State Health Departments reporting isolations of this organism were asked to submit epidemiological information about the cases to the Communicable Disease Center. Of the 29 persons from whom *S. new brunswick* was isolated two were lost to follow-up and two were clearly secondary cases following documented *S. new brunswick* infections in other household members. Twenty-five primary cases thus were available for detailed epidemiologic study of a possible common source of infection.

All persons had symptoms characteristic of salmonellosis, including fever, diarrhea and vomiting. Eleven patients required hospitalization ranging from three to 21 days, and an additional 13 patients required the care of a physician. The cases were geographically scattered throughout the United States. Though illnesses occurred in all age groups, there was a striking predilection for very young children. Twenty of 25 patients had ingested powdered milk within 30 days of their illness. Many foods, such as powdered eggs, pork, shellfish and chicken, often associated with Salmonella infections in the past, could be excluded by low frequency of exposure in this group.

No exact figures of consumption of powdered milk by American families were available, but a survey of households with young children confined to the Atlanta metropolitan area indicated that only 44% of the families used non-fat dry milk. Thus, the fact that 80% of the *S. new brunswick* cases had consumed this product within 30 days of illness seemed quite noteworthy. In addition, the hypothesis that powdered milk was the vehicle of infection was supported by the fact that several of the infected infants had feeding problems and had had a diet consisting almost exclusively of non-fat dry milk. Bacteriological examinations were performed on hundreds of shelf samples of many brands of non-fat dry milk by a number of laboratories. The same rare serotype, *S. new brunswick*, was subsequently isolated from many samples of instant non-fat dry milk

produced by a single plant in the midwestern United States. The organism was also isolated within the plant from the equipment and from milk products. The product was recalled from the market in April 1966, and a supervised clean-up and remodelling of the plant was instituted.

Investigation of illnesses with these serotypes for possible association with powdered milk is being conducted along with careful inspection of milk-drying plants by the dry milk producers and regulatory agencies.

GASTROENTERITIS AND VIRAL HEPATITIS ASSOCIATED WITH RAW CLAMS—U.S.A.

An outbreak of 33 cases of gastroenteric illness and four cases of viral hepatitis occurred among 128 persons who had attended a picnic in East Brunswick Township, New Jersey, on August 21, 1966.

The gastroenteric illness which developed 12 to 60 hours following the afternoon of the picnic lasted from one to three days and was characterized by nausea, vomiting, abdominal cramps and diarrhea. Only five of the 33 persons experienced fever. None of the ill persons were hospitalized. Of the 128 persons who attended the picnic 122 were questioned regarding possible illnesses and foods eaten. Twenty-two food items, including raw and steamed clams, were served. With the exception of clams, there were no differences in attack rates among eaters and non-eaters for each food item. Among 61 persons who had eaten clams, 31 (51%) became ill, whereas only two (3%) of the 61 persons who did not eat clams became ill.

Four persons who attended the picnic developed viral hepatitis. Each had eaten both raw and steamed clams, and three of them also experienced an acute gastroenteric illness. The intervals between the time of the picnic and onsets of hepatitis in the four patients were 22, 26, 37 and 40 days, respectively. None of these four had a history of personal contact with a jaundiced person during the two months prior to onset, and none had received parenteral inoculations or blood transfusions within the six months preceding their illnesses.

An attempt was made to uncover other patients with hepatitis who had eaten clams obtained from the same sources as the "picnic" clams. A telephone survey among 95 physicians in the county where the clam retailer is located revealed four unreported cases of hepatitis. None of these four had eaten raw or steamed clams. In addition, from the entire state there were eight other persons with hepatitis and a history of clam ingestion reported to the New Jersey State Health Department during August, September and October, but none of these could be linked with the sources of the "picnic" clams.

One bushel of raw clams and one bushel of steamed clams which were served at the picnic were obtained from different sources. Investigation of the source of the raw clams is currently under way.

ANNOTATIONS

LEPROSY: 11 MILLION VICTIMS

There are at least 11 million cases of leprosy in the world, of which fewer than two million are under treatment, according to the latest estimates of the World Health Organization. The disease continues to spread and at least one million new cases of leprosy will appear during the next five years in countries of high infection rate. Leprosy is most prevalent in Asia, with an estimated 6.5 million cases, and in Africa, with about four million cases. The incidence is much less in the Americas (about 350,000 cases) and there are still as many as 52,000 in Europe and 33,000 in Oceania.

Epidemiology Division, Department of National Health and Welfare.
Ottawa, November 1966.

SUMMARY OF REPORTED CASES OF NOTIFIABLE DISEASES IN CANADA
ISSUED BY THE PUBLIC HEALTH SECTION, DOMINION BUREAU OF STATISTICS

Disease	*Week ended (1966):* Sept. 17	Sept. 24	October 1	October 8	*Cumulative total since beginning of year* 1966	1965
Brucellosis (Undulant fever) (044)	—	—	1	—	18	32
Diarrhea of the newborn, epidemic (764)	—	6	5	—	54	92
Diphtheria (055)	—	—	1	1	20	30
Dysentery (045, 046, 048)	118	68	69	76	3613	3240
(a) Amebic (046)	1	—	1	—	35	43
(b) Bacillary (045)	67	54	56	50	2557	1395
(c) Other and unspecified (048)	50	14	12	26	1021	1802
Encephalitis, infectious (082.0)	—	—	—	—	2	32
Food poisoning: (049.0, 042.1, 049.2)	21	27	36	26	1276	1265
(a) Staphylococcus intoxication (049.0)	—	1	—	—	121	168
(b) Salmonella with food as vehicle of infection (042.1)	21	26	33	26	994	963
(c) Unspecified (049.2)	—	—	3	—	8	134
Hepatitis, infectious (including serum hepatitis) (092, N998.5)	88	100	94	84	4213	4982
Meningitis, viral or aseptic (080.2, 082.1)	1	6	1	2	92	226
(a) Due to poliovirus	—	—	—	1	2	1
(b) Due to coxsackievirus	—	—	—	—	3	18
(c) Due to echovirus	—	—	—	—	6	10
(d) Other and unspecified	1	6	1	1	81	197
Meningococcal infections (057)	1	1	1	—	72	73
Pemphigus neonatorum (Impetigo of the newborn) (766)	—	—	—	—	4	29
Pertussis (Whooping cough) (056)	135	122	193	128	2593	1847
Poliomyelitis, paralytic (080.0, 080.1)	1	—	—	—	3	2
Scarlet fever and Streptococcal sore throat (050, 051)	211	181	188	185	14,292	9583
New active cases of Tuberculosis to August	—	—	—	—	2611	3038
Typhoid and Paratyphoid fever (040, 041)	1	—	—	1	95	114
Venereal diseases:	504	512	492	444	17,960	17,564
(a) Gonorrhea (030-034)	470	470	449	412	16,434	15,608
(b) Syphilis (020-021.3, 023, 024, 026-029)	33	42	43	32	1521	1953
(c) Other* (036-038)	1	—	—	—	5	3

*Including chancroid, granuloma inguinale and lymphogranuloma venereum.